FOR MYSORE STATE

P.W. (195 5) Department.

Ms. **SERIES.**

G.O. No. 1405

Dated 12th April 1955

[Despatch Abstract.]

Communications - Bridges - South Kanara District - Construction of vented causeway over Talapady river at Mile 7/7 of Mangalore Cheruvathur road in lieu of bridge - Estimate for Rs.87,000/- Approved.

Extract from the Chief Engineer (Highways)'s letter No.28377 E4/54-2, dated 15th July 1954, to the Secretary to Government, Public Works Department, Madras.

Sub: Communications - Bridges - South Kanara District - Bridge over Talapadi river near Mangalore - Stage.

Ref: Government (P.W.D.) Memo. No. 51996 A/54-1, dated 7-7-54.

xx xx xx

A Item (3). The field particulars etc. submitted by the Superintending Engineer were examined here and it was considered that a causeway for a length of 150 feet will be sufficient and that the work is expected to cost within a lakh of rupees. Therefore, the Superintending Engineer (Highways), Coimbatore was asked to accord technical sanction to the detailed estimate and the field particulars were returned to him for necessary action. Regarding the further stage, the Divisional Engineer (Highways), Mangalore has been addressed and on hearing from him, a further report will be sent to Government.

B Item (4). Though the work was sanctioned for a bridge, the preparation of plans and detailed estimate revealed that a causeway will serve the purpose. As this question was not decided, the estimate was not sanctioned and the work could not be taken up. Now that the Superintending Engineer (Highways), Coimbatore has been asked to accord technical sanction, the work will be taken up after finishing the usual formalities early.

xx xx xx

Extract from the letter of the Chief Engineer (Highways) Chepau, Madras-5, No.28377.E4.54HR, dated the 22nd July 1954, to the Secretary to Government, Public Works Department, Madras-9.

Sub: Communications - Bridges - South Kanara District - Bridge over Talapadi river near Mangalore - Further stage.

Ref: C.E.(H) letter No.28377.B4.54.2, dated 15-7-54.

xx xx xx

C 2. Priority is being given to the works that come under the West Coast Development Scheme and this work will be taken up in its turn.

P.W.D.(A1)

Please see extract of the CE's letters above. He may now be consulted as in the draft Memo below.

18.8.54.

18.8.54

P.W.(A2)

Memo.No. 65240/A/54 Dated: 18/8/54

Sub: Communications - Bridges - South Kanara district - Bridge over Talapadi river near Mangalore - Construction of causeway in lieu of bridge - Revised administrative approval.

Ref: From the C.E.(H) Lr.No.28377-E4/54-2 dated 15-7-54.
From the C.E.(H) Lr.No.28377-E4/54-HR dated 22-7-54.

In G.O.Ms.No.2302, P.W., dated 1-6-1951 the Govt. approved an estimate for Rs 2 lakhs for the work of constructing a bridge over the Talapadi river near Mangalore. The C.E. has now reported that the preparation of plans and detailed estimate revealed that a causeway at the site will serve the purpose and that he has instructed the S.E.(H), Coimbatore to accord technical sanction to the detailed estimate for the causeway. He is now requested to state whether the revised administrative approval of the Govt. is not necessary for the work of constructing a causeway at the site in lieu of a bridge. His attention in this connection is invited to his letter No.1595-C3/47-11 dated 10-2-49 regarding the construction of a bridge at mile 27/5 of the Tirumushi Satyavedu road in lieu of improvements to the existing causeway.

2. The C.E. has reported that priority is being given to the works that come under the West Coast Development Scheme and that the work of constructing a causeway over the Talapadi river will be taken up in

ts turn. As the Govt. ha
wo special divisions for the investi-
ation and preparation of ~~est~~ plans and
stimates for the works on the West
Coast road it is not understood why
the work under reference cannot be taken up in
~~the normal course during the current year when~~ the regular staff. The C.E. is requested to elucidate.

18/8/54

Kotw
16/8/54

15.8.54

To The C.E.(H)

23.8.54

65240-A/54

5

73472 HIGHWAYS DEPARTMENT

From

Sri.K.K.Nambiar,B.E.,M.I.E(Ind)
F.Inst.H.E(Eng)M.I.Mun.E(Eng)
M.Aq. Soc.C.E.,
Chief Engineer (Highways)
Chepauk, Madras.5.

The Secretary to Government
Public Works Department,
Madras.9.

Letter No.33565.E4.54.3 dated 17.9.54

Sir,

Sub: COMMUNICATIONS - Bridges - South Kanara Distirct - Bridge over Talapady river near Mangalore - construction of a causeway in lieu of bridge-revised administrative approval regarding.

SECRETARIAT MADRAS 20 SEP 1954 PUBLIC WORKS DEPARTMENT

Ref: P.W.D Memo No.65240.A.54.1 dated 18.8.54 pp 3-4 ne

- - -

The Divisional Engineer (Designs) has since completed the preparation of detailed plans and estimates for the ~~whole~~ above work and has submitted them to the Superintending Engineer (Highways Coimbatore circle for necessary further action.

2. Government will be approached for revised administrative approval as soon as a copy of the estimate is received from the Superintending Engineer, after due check.

3. As for para 2 of the Government Memo I am to state that according to the procedure followed in the department for the preparation of plans and estimates, the field particulars for bridges are gathered and sent by the Assistant Engineer (Bridges) to the Divisional Engineer (Highways) (Designs) The Divisional Engineer (Designs) finalises the estimates and submits them to the Superintending for necessary action. The field particulars in respect of certain works falling on west coast road were accordingly forwarded to the Divisional Engineer (Designs) prior to the formation of the Special Divisions for west coast road works. In order to expedite the progress of works on west coast the Divisional Engineer (Designs) was asked to finalise the estimates quickly instead of transferring the work to the new investigation Divisions. He was also asked to give priority to these works (about 6 in number) and then take up other works. All the other particulars collected after the formation of the two special Divisions were handled by the Special Divisions direct.

S.P. Naraniyan 17-9-54
for CHIEF ENGINEER(HIGHWAYS)

AV/17.9.54

P.W(A2) SYDG

T.M.No. 65240 A/54-2 Dated 22-9-54

From A.S., RWD.

To the CE (H)

22/23.9

Sub: (as on p5 ante)

Ref:- Your letter No. 33565-E4/54-3 dated 17-9-54 p5 ante

Please report whether the work of constructing a causeway across the Talpady river will be taken up during the current year.

M 21.9.54

21.9.54

P.c. togo.

22/9/54.

Note

The CE's report on p5 ante does not indicate when the work under reference will be taken up. He may be consulted as in the draft above.

M 22.9.54.

21.9.54

HIGHWAYS DEPARTMENT

From
Sri K.K.Nambiar, B.E., M.I.E.(Ind),
F.Inst.H.E.(Eng) M.I.Mun. E.(Eng),
M.Am. Soc.C.E.,
Chief Engineer (Highways),
Chepauk, Madras-5.

To
The Secretary to Government,
Public Works Department,
Fort St.George,
MADRAS-9.

ASST. SECRETARY TO GOVERNMENT
13 OCT 1954
PUBLIC WORKS DEPARTMENT

Letter No.33565-E4/54-5 dated 4.10.54

79397

Sub: S.Kanara District - Bridge over the Talapadi river near Mangalore construction of a causeway in lieu of bridge revised Administrative approval.

Ref: Government T.M.No.65340-A/54-2 dated 22.9.54

The estimate called for from the Superintending Engineer (H) Coimbatore is awaited. Soon on receipt of the estimate Government will be addressed for obtaining the revised administrative approval.

KCK..4.10.

for CHIEF ENGINEER (HIGHWAYS)
8.10.54

4/10/

P.W(A2)

A.R. 5/11/54

13.10.54

14.10.54

13.10.54

8

P.W(A)

Memo No. 65240-A/54-3 dated 12-11-54.

Sub:- (as in flag ante)

Ref:- From the CE(H) letter No. 33565-E4/54-5 dated 4-10-54 (flag A)

The CE(H) is requested to expedite his final reply.

12-11-54

2.11.54

To

The CE(H)

12.11.54

10/11 N.K. 5/12

65240/54

90982

HIGHWAYS DEPARTMENT.

From
Sri K.K.Nambiar, B.E., M.I.E.(Ind.)
F.Inst.H.E.(Eng.) M.I.Mun.E.(Eng.)
M.Am.Soc.C.E.,
Chief Engineer (Highways)
Chepauk, Madras--5.

To
The Secretary to Government,
Public Works Department,
M A D R A S.

Letter No.33565-E4/54-6 dated 22.11.54.

ASST. SECRETARY TO GOVERNMENT
26 NOV 1954
PUBLIC WORKS DEPARTMENT

Sub:-South Kanara District - Bridge over the Talapadi river near Mangalore-construction of a causeway in lieu of bridge-Revised administrative approval.

Ref:-Govt.Memo No.65240-A/54-3 dated 12.11.54.

....

Copy of

The estimate for the causeway ~~copy~~ called for from the Superintending Engineer (Highways) Cannanore has not been received. He is being reminded specially by a D.O. today. On hearing from him, I shall send the estimate for necessary approval.

AR. Tel 25/11/54. RW(Hy)

25/11/54 26.11.54

T.P. Nambiar 22.11.54
for CHIEF ENGINEER (HIGHWAYS)

In time.
tm/22.11. 25/11/54

10

15
3-1

Memo No. 65240A/54-4 Dated 31-12-54 P.W(A2)

Subs: (as on p 9 ante)

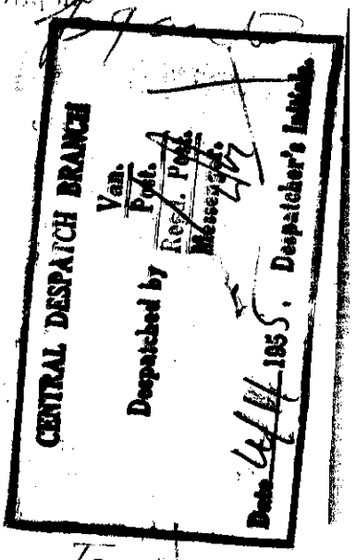
Ref:- From Ke CE(H) letter No. 33565-E4/54-6 dated 22-11-54

KeCE(H) is requested to state whether the estimate for the causeway has since been received from KeSE(H) and if so, when the revised administrative approval of the Govt therefor will be obtained.

B-
31-12-54

Kow
31.12.54

M
31.12.54



To
CE(H)

65240/54

HIGHWAYS DEPARTMENT

From
Sri K.K.Nambiar, B.E., M.I.E.(Ind),
F.Inst.H.E.(Eng) M.I.Mun.E.(Eng),
M.Am.Soc.C.E.,
Chief Engineer (Highways),
Chepauk, Madras.5.

To
The Secretary to
Government,
Public Works Depart
Fort St.George,
MADRAS-9.

3066

ASST. SECRETARY TO GOVERNMENT
15 JAN 1955
PUBLIC WORKS DEPARTMENT

Letter No.33565-E4/54-11 dated 11.1.54.

Sir,

Sub: South Kanara District - Bridge over the Talapadi river near Mangalore Construction of a Causeway in lieu of bridge - Revised administrative approval - regarding.

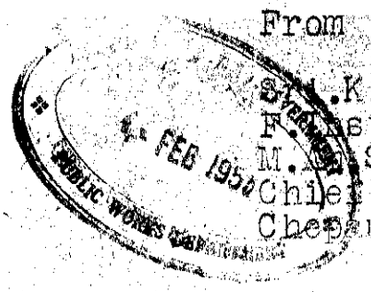
Ref: From Govt. P.W.D. Memo No.65240-A/54-4 dated 31.12.54

A report with an estimate has just been received from the Superintending Engineer (Highways) and the matter is under examination. Government will be addressed in the matter shortly.

kck...11.1.

for CHIEF ENGINEER (HIGHWAYS)

HIGHWAYS DEPARTMENT



From
S/Sri.K.K.Nambiar,B.E.,M.I.E(Ind)
F.Inst.H.E(Eng)M.I.Mun.E('Eng)
M.Am.Soc.C.E.,
Chief Engineer (Highways)
Chepauk, Madras.5.

The Secretary to Government,
Public Works Department, Madras.9.

Letter No.33565.E4.54.12 dated 1.2.55.

Sir,

Sub: Communications - Bridges - South Kanara District Birdge over Nelapady river near Mangalore construction of causeway in lieu of Bridge reivsed administrative approval for Rs 87000/- requested.

Ref: Govt.P.W.D.Memo No.65240.A.54.1 d/18.8.54

- - -

The work of constructing a high level bridge over the Nelapady river at a cost of Rs 2 lakhs was approved in G.O.No.2302 P.W dated 1.6;51. It was seen after investigation that construction of a vented causeway is enought as reported in this office Letter No.28377.E4.54.2 dated 15.7.54. As there is material change in the design orders of Government are necessary for the change in the nomenclature of this work. Hence I enclose an estimate for Rs 87000/- for the work of constructing a vented causeway.

In view of the urgency of this work the Superintending Engineer has been permitted to start this work in the current year itself in anticipation of revised administrative approval of Government. There is a budget provision of Rs 10000/- in the current year for the work.

In view of the above I request that revised administrative sanction of Government for Rs 87000/- for the work of constructing a vented causeway ~~acro~~ across Nelapady river at M. 7/7 of Mangalore Cheruvethur road in lieu of a bridge sanctioned in G.O No.2302 P.W dated 1.6.51 may be obtained and communicated to me early;

I also request that my action in having permitted the execution of the work may please be approved.

E.P. Nanavaty 2.2.55
for CHIEF ENGINEER (HIGHWAYS)

AV/1.2.55
Enc: 1.Abstract of estimate.
2.Specification report accompanying the estimate.q

Specification report to accompany the estimate for constructing a causeway across Talapady river at mile 7/7 of Mangalore- Cheruvathur road- M.D.R- South Kanara District.

Amount of estimate Rs.87,000/-

NECESSITY:-

The Mangalore-Cheruvathur road is a Major District road running close to the sea coast. The Talapady river which crosses the road at mile 7/7 holds up all road traffic between the coastal towns of Manheshwar and Ullal during the monsoon, and even during the fair season, only carts can ford across, as the river is a perennial and tidal one. The construction of a causeway across the river will serve the needs of traffic for the greater part of the year, with only a few interruptions of short duration. Thus at least a causeway structure at this perennial river crossing is an absolute necessity.

SITE:-

The proposed causeway willbe at the existing road crossing itself, which is perpendicular to the course of the stream for quite a reasonable distance upstream as well as downstream of the site. Even thereafter, the bend in the river is not of any consequence, as the site survey plan will show. The existing crossing is about 900 ft. upstream of the railway bridge and is only 5 to 6 furlongs from the sea.

HYDRAULIC PARTICULARS:-

E.F.L. ...	90.12
M.F.L. ...	89.07
O.F.L. (i.e. maximum flood leve observed in 1952)	87.80
Crest level proposed. ...	86.00
H.T.L. ...	83.61
L.T.L. ...	82.31
Stagnated pre-monsoon water lev (almost constant)	82.90

As the river is a tidal one and the crossing is within a mile of the sea, the flow is sluggish for the major part of the year. Soon after the close of the monsoon season annually, an earthen bund is put up across the mouth of the river, which virtually nullifies tidal action in the river until the bund gets breached by the next year's rains. The practically constant water level of 82.90 mentioned above is that observed before the onset of the 1952 monsoon. Thus the H.T.L. and L.T.L. indicated are deemed to depict the tidal action taking place after the end of the monsoon and just before the construction of the said bund.

As the E.F.L. of 90.12 is reported to be reached only once in 75 years, only the M.F.L. 89.07 is considered and, that too, only for scour calculations. For designing the underverts of the causeway, only the discharge of a flood reaching up to its crest level of 86.00 is taken into account.

Discharge by Kutter's formula at M.F.L. of 89.07.	8679 Cusecs (adopted)
Discharge by Ryve's formula (catchment area 13 sq.miles)	8294 Cusecs.
Discharge of flood at crest level (86.00)	1872 Cusecs.(Not adopted)
Discharge of flood at R.L.85.00 (assuming one foot afflux)	1022 Cusecs(adopted)

35 RCC hume pipes of 3 ft dia: will be provided to pass the discharge of 1022 cusecs, the afflux being between 1' and 1.23' and the velocity developed being 7 ft/sec. In calculating this, the effective hydraulic capacity of each pipe has been limited to the sectional area of the pipe bore above the L.T.L. of 82.31. If the causeway is treated as a broad-crested weir discharging 8679 cusecs by overflow and through its pipe vents, the velocity developed though the latter works out only to 10.5 ft/sec.

SETTING OF CAUSEWAY AND IT'S APPROACHES:-

As the structure across the stream is to be a submersible one, its setti

in relation to the natural stream section should be such that the area of the latter at E.F.L will not be reduced except to the extent caused by the obstructic in the shape of the causeway structure exclusive of its perforated area. Hence the level portion of the causeway should cover the full width included between the banks at crest level, namely, from chainage 550 to Ch: 907. It will be seen from the stream cross section that the water spread at E.F.L. is from Ch: 386 to 1167. It is, therefore, considered necessary to have the sloping approaches of the causeway very nearly conforming to the profile of the existing strips of submersion on either bank so as to permit an easy passage of extraordinary floods. On this consideration, a rising slope of 1 in 30 for the left approach and 1 in 66 for the right one, starting from Ch: 550 and 907 respectively, are provided, the points of their meeting the existing road being at Ch: 327 and 1238 respectively. The length of the causeway proper will therefore be 357 ft and the total length of new formation including the approaches will be 911 ft, but the actual length which will have a concrete pavement will be that confined between the banks at R.L. 90.60 (say), i.e. nearly half a foot above the E.F.L. and the limiting points of the concrete pavement so fixed will be at Ch: 412 and Ch.1209 respectively. Beyond these points, the surfacing will be of water bound macadam which will extend up to Ch: 300 on the left side and 1270 on the right one.

VENTED PORTION OF CAUSEWAY:-

(a). Main features: The vented portion will be from Ch: 647 to Ch.810 measured out to out of the cross walls at either end. 35 R.C.C. hume pipes of 3 ft diameter, spaced at 1½ d or 4'-6" centres, will be provided and the centres of the 2 extreme pipes will be at Ch:652 and Ch: 805 respectively. The shell thickness of the pipes 2 inches. The 4'-6" centre to centre spacing affords a distance of ½ d between the middle points of the inside peripheries of two consecutive pipes and is adequate. Each pipe line will be 24 ft long built up in three 8 ft lengths. The level of the sill or pipe invert will be 81.17 which is 0.13 ft above the deepest bed level but 1.08 ft below the average bed level between Ch: 652 and 805. No provision is made for dressing the river bed down to R.L. 81.17 as the sand required for filling between the pipes will be obtained from the bed itself.

The pipes will be embedded in a concrete cradle having a bottom portion of 1'-0" depth below the lowest part of each pipe and a side encasing also 1'-0" high. The cradle will be continuous between the 2 cross walls at either end and will be of 1:3:6 cement concrete of 1½" size B.S.S. hard granite metal.

(b) Soil filling between and above pipes:- The soil filling between the concrete cradle and the top of the pipe will be of sand placed in layers and tamped. The filling for a height of one foot above the pipe will be of gravel laid, watered and well tamped in 3 layers of 4" each, the topmost layer being rolled with a hand roller.

The reason why sand is selected for the side filling is that the pressure of the soil on the sides of a pipe increases its supporting capacity and sand exerts greater pressure than other soils; further, confined sand has a good bearing power. As regards the filling above the pipe, gravel is a move efficient medium of dispersion of traffic loads than sand. Above the one foot flexible filling of gravel, there will be rigid crust of 8" thickness, consisting of a 4" thick lean 1:4:8 C.C. base and 4" 1:2:4 C.C. pavement the toal depth of filling over the pipe thus being 1'-8".

(c). BODY WALLS IN VENTED PORTION (from Ch: 647 to 810). The deepest scour level is computed as 78.29, but the protection of the bed by way of a rough stone apron 1'-6" thick (vide relevant para below) will greatly mitigate, if not entirely prevent, scour. Neverthless, the bottom of foundation of the body walls will be at R.L. 75.00, which is 6 ft below the lowest part of the pipes. The body walls will have a 4 ft wide and 2 ft deep foundation footing and the sections of their superstructure will be as shown in the detailed drawings. The top of the body walls will be 2'-0" wide and 4 inches below the crest level of 86.00. The distance outside to outside of the body walls will be 24'-0" There will be 2 cross body walls at either end of the vented portion. The entire body wall structure will be of 1:3:6 cement concrete of 1½" size B.S.S. hard granite broken stone. Expansion joints as shown in the detailed drawings will be provided in the body walls, at about 33 ft intervals. The body walls in the non vented portion are founded at a higher level, as the lowest ground level upstream. is 85.38 on the left bank and 83.75 on the right one and any flood will have to scour the high ground upstream before attacking the body wall foundations.

(d). Sequence of concreting for vented portion:- The concrete for the body wall structure will first be laid until R.L. 80.00, the bottom level of the cradle for the pipes. The lower portion of the cradle from R.L. 80.00 to 81.00 which runs throughout and is 24 ft. wide will then be laid with a slightly roughened surface to facilitate bond with the concrete to be laid over it later. The pipes will then be installed in position and thereafter concrete for the side encasement from R.L. 81.00 to R.L. 82.00 will be laid. The last item to be concreted will be the top portion of the body wall from R.L. 82.00 to R.L. 85.67, care being taken to leve holes for anchoring the vertical rods of the guide posts to be fixed subsequently. The concrete of the 2 cross walls should be well keyed into that of the longitudinal body walls.

NON-VENTED PORTION AND APPROACHES:- The non-vented portion of the causeway will comprise the 2 level portions from ch.550 to 647 and ch.810 to 907. The left approach to the causeway will slope up at 1 in 30 and end at ch.327 and the right one will slope up at 1 in 66 and end at ch.1238.

Body walls of random rubble masonry in cement mortar 1:5 will be provided in the level portions and along the sloping approaches till the limits of the concrete pavemnet, namely, upto ch.412 and 1209 respectively. The body walls in the level portions will have a 1'-0" deep foundation footing of 1:3:6 c.c. but those for the sloping approaches will not have any concrete foundation, as they are virtually embedded in the goround and serve more or less as kerb stones for the concrete pavement and base.

Particulars of body walls in the lvel (non-vented) portions:-

Chainages of body wall system.	Bottom level of foundation	Top level of foundation	Width of foundation	Width of top of body walls.
647 to 597	79.67	80.67	2'-6"	1'-6"
810 to 860	80.67	81.67	2'-6"	1'-6"
597 to 550 and 860 to 907.	81.67	82.67	2'-6"	1'-6"

N.B. The top of the body wall masonry (random rubble) is at 85.67. and over this, 4" deep cement concrete will be laid up to the crest level of 86.00. For particulars of the body sections, vide detailed drawings.

The distance outside to outside of body walls will be 22'-0" in the level (non-vented) as well as sloping portions.

The body walls along the slopes will be 1'-6" x 2'-0". In order to protect them against the undermining action from the water in the side drains and damage by flood waters overflowing the pavement there will be 3 ft. wide berms on either side of the 22'-0" roadway. A cross section of the new approach road in cutting or flush with the ground, showing body walls and side drains, etc., is given in the drawings.

There will be 4 cross walls in the non-vented portion, their positions being at ch.550, 597, 860 and 907 respectively.

CONCRETE PAVEMENT AND WATER BOUND MACADAM WEARING SURFACE:-

As already described in the para "setting of causeway", a cement concrete pavement will be provided over the causeway and approaches between ch.412 and 1209 and, beyond these points, there will be a water bound macadom surface extending till ch. 300 on the left and 1270 on the right sides.

The concrete pavement will be 4" thick and of 1:2:4 mix with 2/3 rds of 1½" and 1/3 rd of 3/4th inch B.S.S. size granite broken stone. This will be laid over a 4" thick base of lean cement concrete of 1:4:8 mix of 1½" size granite broken stone. At the cross walls, the 1:2:4 concrete pavement will be laid directly on them.

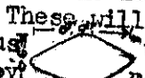
The widths of the concrete pavement will be as follows:-

CHAINAGE.			WIDTH.
From		To	
647		810	24'-0"
647	and	490	
810	and	947	22'-0"
490	and	412	
947	and	1209	19'-0"

N.B.- The 19 ft is the clear distance between body walls of 1'6" x 2'-0" section. The cement concrete pavemaat between Ch: 550 and 907 will have its edges rounded to a radius of 3 inches to facilitate flow over the causeway crest.

Smooth vertical curves connecting the level portion of the pavement to the 1 in 30 slope of the left approach and the 1 in 66 slope of the right one will be provided between Ch: 490 and 610 and between Ch: 867 and 947 respectively. The points of intersection of the tangents to these curves will be at Ch: 550 and 907 respectively. The ordinates of the vertical curves at various points are worked out in a separate calculation sheet. The pavement will have crosswise expansion joints at 33 ft intervals and a longitudianl expansion joints along its centre line. A longitudinal construction joint between the 20' (or 19') wide main portion of the pavement and the 2 ft (or 1'-6") wide strips on either body wall will also be provided. All the joints will be packed with bitumen or other flexible type of filler. To prevent the 2 ft. (or 1'-6") wide strips on either side being disturbed out of place, the vertical reinforcement of the guide posts to be fixed subsequently will penetrate the 4" depth of these strips and also anchored 8" deep into the concrete or stone masonry of the body wall as the case may be.

The 1:4:8 cement concrete base already mentioned is provided for the entire length of the pavement, because the surfacing of the existing road is presumed to be of laterite metalling which cannot be classified as a hard sub grade, as it is porous and prone to get spongy and soft during the long monsoon season on the West Coast. The water bound macadam surface beyond the concrete pavement, i.e. from Ch: 300 to 412 and 1209 to 1279 will be of 5" thick metalling, consolidated in two coats of 3" (with 2" I.R.C. size metal) and 2". (with 1½" I.R.C. size metal) respectively. A lumpsum provision is made for this item of work. No soling for it is necessary.

GUIDE POSTS:- R.C. guide posts will be provided at 10 ft intervals in the vented portion between Ch: 647 and 810 and at 20 ft intervals in the non vented portion of the causeway from Ch: 567 to 647 and 810 to 890. These will be 3'-0" high above the road level and of a diamond shaped section thus  with slightly rounded corners to prevent their being chipped off by passing traffic or urchins. The 9" dimension will be perpendicular to the road axis. The vertical reinforcement of the guide posts will penetrate the 4" cement concrete over the body walls and also be anchored 8" deep into the body wall below.

APRON FLOORING:- Rough granite stone apron flooring will be provided for the bed alongside the causeway from Ch: 547 to Ch: 910. For the vented portion between Ch: 647 and 810, the width of apron will be 8 ft on the upstream side and 12 ft on the downstream side and its depth will be 1'-6". increased to 2 ft at the toe in the course of the last 3 ft of the width on either side. For the non vented portion, the width of apron flooring will gradually decrease from 12 ft or 8 ft (as the case may be) at Chs. 647 and 810 to zero at chs: 547 and 910. The apron depth will be 1'-0", but between Ch: 597, and 647 and between Ch: 810 and 860, the depth is increased to 2 ft at the toe in the course of the last 2 ft of the width.

LUMP SUM PROVISIONS:- These are made for earthwork, baling or water, metalling for the small stretches beyond the concrete pavement, land acquisition, expansion joints, temporary sheds, contingencies, petty supervision and major supervision charges.

The whole work will be carried out in accordance with the M.D.S.S. and other circular instructions issued from time to time.

(Sd) M.N.Kamath
Superintending Engineer (Highways)
True copy/By Order

[signature]
P.A. Personal Assistant 27/1

ABSTRACT OF ESTIMATE

Constructing a causeway across Talapady river at M. Cheruvathur road - M.D.R) South Kanara District. 7/7 of Mangalore

Item Number (1)	Quantity. (2)	Description of work. (3)	Rate. (4)	Per (5)	Amount (6)	Tot (7)
1.	L.S	Earthwork excavation for body walls and pipe craddle for laying lean C.C. base and C.C. pavement where the new formation is in cutting or flush with the ground and for widening the existing road.	L.S		1500	
2.	10,050 cft	Cement concrete mix. 1:3:6 with 1½" B.S.S. size hard granite broken stone including cost and conveyance of all materials except cement but including placing, curing, centering etc complete, for foundations and for cradles for pipes.	68/8	100 cft	8884	
3.	5300 cft	Cement concrete mix.1:3:6 with 1½" B.S.S. size hard granite borken stone including cost and conveyance of all materials except cement but including placing centering shuttering, curing etc. complete for masonry of body walls	70/8	100 cft	3737	
4.	5050 cft	Cement concrete mix 1:4:8 with 1½" B.S.S. size hard granite broken stone including cost and conveyance of all materials except cement but inclusive of placing etc complete to provide as base under c.c. pavement.	62/8	100 cft	3156	
5.	17900 sq.ft.	Cement concrete pavement 4" thick mix 1:2:4 with 66 2/3% I.R.C. size broken metal to be cast in situ using mechanical mixers including expansion joints, cost of curing special tools etc and finishing the surface to correct camber etc and including cost and conveyance of all materials except cement	34/-	100 sq.ft.	6,086	
6.	880 rft	Reinforced Concrete hume pipes 3'-0" 3'-0" inside diameter with 2" thick shell and of standard lengths of 8'-0" and with the required number of collars including cost and conveyance of pipes and laying and fixing in position.	20/-	Rft	17,600	23313
7.	2700 cft	Sand filling in between pipes upto the level of topmost part of pipes including laying and tamping in layers etc complete	3/-	100 cft	81	
8.	3500 cft	Gravel filling below 1:4:8 C.C. base and above sand filling including laying in 4" layers tamping and watering etc complete	11/-	100 cft	385	
9.	5650 cft	Random rubble masonry in C.M. 1:5 including cost and conveyance of all materials except cement for body walls on the non vented portion.	67/8	100 cft	3814	
10.	8100 cft	Granite rough stone dry packing for a ron flooring including cost and conveyance of all materials.	50/4	100 cft	4070	

@ 1½" size and 33⅓ % of 3/4" & 47313

47,313

11.	54 Nos.	Reinforced cement concrete guide posts of diamond shape with diagonal measuring 0'-9" x 0'-6" (0'.9" being Lr to road axis) and with rounded off corners and 3'-0" high as shown in detailed drawings including cost and conveyance of all materials except cement and steel.	4/12-	each	257
12.	214 tons	Supply of cement at site (for items 2,3, 4,5,9 and 11)	98/8	ton	21079
12(a)	0.5 tons	Supply of steel at site (for item 11)	526	ton	263
13)	L.S	Baling out of water		1	7,000
14.	L.S	Providing 5" thick metalling in 2 coats of 3" and 2" with 2" and 1½" I.R.C. size metal respectively from Ch.300 to 412 and Ch.1209 to 1270	L.S		600
14(a)	L.S	Providing gravel cushion if necessary below the beame mixer of cement concrete in non vented portions	L.S		1000
15.	L.S	Providing expansion joints in C.C. body walls and a construction water tight joint with bitumen along the line of junction of the pavement with either body wall.	L.S		1000
16.	L.S	Acquisition of land	L.S		1000
17.	L.S	Constructing temporary sheds for stores and watchman and for work charged establishment	L.S		2500
18.		Petty supervision charges			2000
19.		Contingencies and unforeseen items.			2988
		(Rupees eightyseven thousand only)			Rs. 87,000/-

Estimate technically sanctioned for Rs.87,000/- (Rupees eightyseven thousand only) and registered as C.R. No. 3 /54-55

(Sd) M.N.Kamath
Superintending Engineer (Highways)
True copy/ By Order

Personal Assistant. 27/12

KKN 27-12

P.W.(A-2)

SUB: Communications - Bridges - Sout Kanara District - Construction of vented causeway over Talapady river at Mile 7/7 of Mangalore Cheruvathur road in lieu of bridge - Estimate for Rs 87,000/- Approved.

Ref: G.O.Ms.No.2302 P.W. d/ 1-6-1951.

From the C.E.(H) Lr.No.33565-E4/54-12, dated 1-2-55.

...

G.O.MS.NO 1405 DATED 12.4.55

The Govt. approve an estimate for Rs 87,000/ (Rupees eighty seven thousand only) for constructing a vented causeway across the Talapady river at Mile 7/7 of the Mangalore Cheruvathur road in South Kanara Dt. in lieu of an estimate for Rs 2 lakhs sanctioned in G.O.Ms.2302 P.W. dated 1-6-51 for the construction of a bridge at the site.

2. The action of the C.E.(H) in having permited the S.E.(H) to start the construction of the causeway in the year 1954-55 itself, in anticipation of revised administrative approval of Govt., is ratified.

To
The C.E.(H)
The A.G. thro' Fin.
Duplicate copy to Sri A.K.Raman
A.G., Madras

(3 Scs.)

CENTRAL DESPATCH BRANCH

58388 HIGHWAYS DEPARTMENT.

From
Sri K.K.Nambiar, B.E.M.I.E.(Ind)., F.Inst.H.E.(Eng)M.I.Mun.E.(Eng)., M.Am.Soc., C.E., Chief Engineer (Highways), Chepauk, Madras.5.

To
The Secretary to Government, Public Works Department, Fort St. George, Madras-9.

ASSISTANT SECRETARY TO GOVERNMENT
11 JUL 1955
PUBLIC WORKS DEPARTMENT

LETTER NO. 27791-E4/55-1 DATED 7-7-1955.

Sir,

SUB: WORKS - Post War Road Development - South Kanara District - Constructing a vented Causeway over Talapady river at Mile 7/7 of Mangalore Cheruvathur Coast Road - Regarding -

REF: G.O.Ms.No.1405 P.W. dated 12-4-55.

****

The work of constructing a vented causeway over Talapady river at Mile 7/7 of Mangalore Cheruvathur Road in lieu of bridge was sanctioned for Rs.87,000/- in the G.O. read above and the Superintending Engineer (Highways) was instructed to proceed with the work quickly and to send a completion report early.

It is now reported by the Superintending Engineer (Highways), Cannanore that the work was put on tender on 2-2-55 and the only tender received, was rejected as the rates were prohibitive and as the tenderer did not also pay the earnest money deposit along with the tender. Tenders were called for Second time on 23-2-55 and this time also a premium tender was received at 37.95%. above estimate rates which on negotiation was reduced to 35%. It is also considered too high but no other contractor comes forward to do the work at cheaper rates.

In the meantime there is a proposal to direct the West Coast Road between Chirkala and Pochemogar (Via) Kasargode and Mangalore. In this connection attention is invited to this Office D.O.No.25498-J2/55-1 dated 1-6-55 to Sri R.M.Sundaram, I.C.S., Secretary to Government, Public Works Department. This bridge will be on a diverted West Coast Road, in case the above proposals are approved. If this diversion is finalised, a causeway will not be suitable at Mile 7/7 of Mangalore Cheruvathur Road and a high level bridge will be necessary as the West Coast Road is to be fully bridged.

In the above circumstances I request that the work of constructing a causeway at Mile 7/7 of Mangalore Cheruvathur Coast Road sanctioned in the G.O. cited above may be deferred pending the finalisation of the West Coast Road alignment for Chirkala to Mangalore via Kasargode.

K.P. Nambiar 7.7.55.
for Chief Engineer(Highways).

P.W (A2)

T 4.8

79/56

Memo No. 58388 A/55-2 Dated 26/8/55

Sub:- Com 7 1/2 - Bridges - South Kanara district — Construction of vented causeway over Talapady river at mile 7/7 of Mangalore Cheruvathur Coast Road — Proposal of CE(H) to defer work - Approved

—:—

Ref:- G.O.Ms.No. 1405, P.W, dt/12-4-1955
From the CE(H) Lr.No. 27791-E4/55-1 dated 7-7-55

—:—

The Govt. approve the proposal of the CE(H) that the above mentioned work may be deferred pending a decision on the realignment of the West Coast Road between Chirkala and Pochemogar via Kasargode and Mangalore.

To the CE(H) (2 Secs)

11-8-55 Kww 11-8-55 — 14/8/55

No Ce

SECRETARY TO GOVERNMENT 13 AUG 1955

Finance may see before issue (Under the West Coast Scheme a high level bridge at the estimated cost of Rs 3 Lakhs is proposed. The Govt of India will be addressed separately in regard to the revised alignment of the West Coast Road).

11/8/55 Kww 11/8/55 — 12/8/55 DS — (illegible)

SECRETARY TO GOVERNMENT 26 AUG 1955 PUBLIC WORKS DEPARTMENT

P.W(T) 58388 A/55-1

12-8-55

Rep. No. 63560/CB/55-1 25-8-55

Rays to peruse

23.8.55 — DDS — PW

26

P.W(A2)

Finance have perused the draft memo overleaf. The draft may issue. After issue the papers may be filed with G.O.Ms.No.1405, P.W., dated 12-4-55 at (R).

A
25-8-55

Recd
25-8-55

26/8/55

P.W.(A2).

Sub: Communications - Bridges - South Kanara District
Bridge over Talapadi river near Mangalore
Construction of causeway in lieu of bridge
Estimate for Rs 87,000/- - Approval.

Ref: From the C.E.(H) Lr.No.33565-E4/54-12 dated 1-2-1955

The proposal in this file is to approve an estimate for Rs 87,000/- for construction of a causeway over the Talapadi river in lieu of an estimate for Rs 2 lakhs sanctioned previously for construction of a bridge.

2. In G.O.No.2302 P.W. dated 1-6-1951 the Govt. approved an estimate for Rs 2 lakhs for constructing a bridge over the Talapady river near Mangalore. Subsequently the C.E. reported that the preparation of plans and detailed estimate revealed that a causeway at the site would serve the purpose and that he had instructed the S.E.(H) Coimbatore to accord technical sanction to the detailed estimate for the causeway. Thereupon the C.E. was asked to state whether the revised administrative approval of the Govt. was not necessary for the work of constructing a causeway at the site in lieu of a bridge. He has stated that as there is material change in the design the revised approval of Government is necessary for the change in the nomenclature of the work. He has accordingly submitted for the approval of the Government an estimate for Rs 87,000/- for the work of constructing a vented causeway across the Talapadi river at mile 7/7 of the Mangalore Cheruvathur road in lieu of a bridge sanctioned in G.O.Ms.No.2302 P.W. dated 1-6-1951. He has stated that in view of the urgency of the work he has permitted the S.E. to proceed with the work in the current year itself in anticipation of revised administrative approval of the Government., and requests that his action may be ratified.

EV

4642
9/4

3. The proposal to construct a causeway in lieu of a bridge across the Talapadi river will result in a saving of about Rs 1.13 lakhs. The estimate for Rs 87,000/- for constructing a causeway across the Talapadi river now submitted by the C.E. may be approved. His action in having permitted the S.E. to proceed with the work in anticipation of sanction may also be ratified.

Rs 2,00,
87
1,13,

A

4. Finance may see for remarks.

24.3.55
24/3/55

Finance(EB)

The proposal of P.W. at A above may be agreed to in the Dept.

P.W.D. U.O.No. 65240 A/54-5
24-3-55

2/4/55 Asst
2/4/55
4455
S
4/4/55
PW

P.W(A-2)

With reference to 'A' above a draft order is submitted. The draft may issue after approval in circulation to M(W).

6/4/55
6/4/55
A.J. Chandy
7.4.55
A.S., P.W.D

C.P. Neelakandy
7-4-55

M(W)

(Issued as G.O.Ms.No. 1405 dated 12/4/55)

11/4

26 MAR 1955
21/25
FVW U O 24959/EB/55-1/24.455
ASSTT. SECRETARY TO GOVT.
28222
6 APR 1955
PUBLIC WORKS DEPARTMENT
DEPUTY SECRETARY TO GOVT.
11 APR 1955
PUBLIC WORKS DEPARTMENT